SOURCE CODE

```
package com.mphasis.akshay.training;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.ResultSet;
import java.sql.SQLException;
import java.util.Scanner;

public class phaseEndProject {
	PreparedStatement thePreparedStatement;
	ResultSet theResultSet,secondResultSet;
	String qry;
	Connection dbCon;
	public phaseEndProject() {
		try {
			Class.forName("com.mysql.cj.jdbc.Driver");


	dbCon=DriverManager.getConnection("jdbc:mysql://localhost:3306/phase_end_pr
oject","root","");


		} catch (ClassNotFoundException e) {
			System.out.println("Class issue:"+e.getMessage());
		} catch (SQLException e) {
			System.out.println("Connection issue:"+e.getMessage());
		}

	}

	public static void main(String[] args) {

		phaseEndProject ref= new phaseEndProject();
		try {
			ref.optionSelect();
		} catch (SQLException e) {
			System.out.println("Connection issue:"+e.getMessage());
		}


	}

	private void optionSelect() throws SQLException {
		System.out.println("Select An Option:\n1.View all Students\n2.View
all teachers\n3.View all Classes\n"
				+ "4.View all Subjects\n5.Assign Class for a
subject\n6.Assign teachers to a class for a subject\n 7.View Class Report\n"
				+ "8.Exit\nEnter your Choice:");
		Scanner scan=new Scanner(System.in);
		int choice=scan.nextInt();
		scan.nextLine();
		boolean flag;
		switch(choice) {
```

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		case 1:
			studentList();
			optionSelect();
			break;

		case 2:
			teacherList();
			optionSelect();
			break;


		case 3:
			classList();
			optionSelect();
			break;


		case 4:
			subjectList();
			optionSelect();
			break;



		case 5:
			System.out.println("Assign Class for a Subject\n");
			classList();
			System.out.println("Enter the class id from the above list to
which you want to assign a class to:");
			int classId= scan.nextInt();
			scan.nextLine();
			System.out.println();
			subjectList();
			System.out.println("Enter the subject id from the above list
to assign to the class:");
			int subId=scan.nextInt();
			scan.nextLine();
			qry="insert into class_subject values(?,?)";
			thePreparedStatement=dbCon.prepareStatement(qry);
			thePreparedStatement.setInt(1, classId);
			thePreparedStatement.setInt(2, subId);
			try{
				thePreparedStatement.executeUpdate();
				System.out.println("The insertion is successful");
			}catch (SQLException e) {
				System.out.println("You have entered a wrong id");
				System.out.println();

			}

			optionSelect();
			break;

		case 6:
			System.out.println("Assign teachers to a class for a
subject\n");
			teacherList();
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                    System.out.println("Enter the id of the teacher to be
assigned:");
                    int teaId=scan.nextInt();
                    scan.nextLine();
                    classList();
                    System.out.println("Enter the Class id to which you want to
assign the teacher to from the above list:");
                    int clId=scan.nextInt();
                    scan.nextLine();
                    qry="select s.subject_id AS subject_id,s.subject_name AS
subject_name from subject AS s,class_subject AS cs where
(s.subject_id=cs.subject_id) AND (cs.class_id=?)";
                    thePreparedStatement=dbCon.prepareStatement(qry);
                    thePreparedStatement.setInt(1, clId);
                    theResultSet = thePreparedStatement.executeQuery();
                    flag=false;
                    while(theResultSet.next()) {
                           System.out.println("The Subject Id :
"+theResultSet.getInt("subject_id")+" and the Subject name is
"+theResultSet.getString("subject_name"));
                           flag=true;
                    }
                    if(!flag) {
                           System.out.println("No subjects assigned to the class
yet\n assign a subject first to assign a teacher");
                           optionSelect();
                           break;}
                    System.out.println("Select the SubjectId from the Above
list:");
                    int subjId=scan.nextInt();
                    flag=false;
                    theResultSet = thePreparedStatement.executeQuery();
                    while(theResultSet.next()) {
                           if(theResultSet.getInt("subject_id")==subjId)
                                  flag=true;
                    }
                    if(!flag) {
                           System.out.println("You have entered the wrong subject
code\n Try again");
                           optionSelect();
                           break;}

                    qry="insert into teacher_class_subject values(?,?,?)";
                    thePreparedStatement=dbCon.prepareStatement(qry);
                    thePreparedStatement.setInt(1, teaId);
                    thePreparedStatement.setInt(2, clId);
                    thePreparedStatement.setInt(3, subjId);
                    if(thePreparedStatement.executeUpdate()>0) {
                           System.out.println("The insertion is successful");
                    }
                    optionSelect();
                    break;



             case 7:
                    System.out.println("Class Report\n");
                    flag=false;
                    qry="select * from class";
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                    thePreparedStatement=dbCon.prepareStatement(qry);
                    theResultSet = thePreparedStatement.executeQuery();
                    while(theResultSet.next())

      {System.out.println("Class:"+theResultSet.getString("class_name"));
                          int i=theResultSet.getInt("class_id");
                    qry="select student_name from students where class_id=?";
                    thePreparedStatement=dbCon.prepareStatement(qry);
                    thePreparedStatement.setInt(1, i);
                    secondResultSet=thePreparedStatement.executeQuery();
                    System.out.println("The students list:");
                    while(secondResultSet.next()) {

      System.out.println(secondResultSet.getString("student_name"));
                          flag=true;
                    }
                    if(!flag)
                          System.out.println("No students are there in this
class");

                    flag=false;
                    System.out.println();

                    qry="select s.subject_name from subject AS s, class_subject AS
cs where (s.subject_id = cs.subject_id) AND (cs.class_id=?)";
                    thePreparedStatement=dbCon.prepareStatement(qry);
                    thePreparedStatement.setInt(1, i);
                    secondResultSet=thePreparedStatement.executeQuery();
                    System.out.println("The subject list is:");
                    while(secondResultSet.next()) {

      System.out.println(secondResultSet.getString("subject_name"));
                          flag=true;
                    }
                    if(!flag)
                          System.out.println("No subjects are assigned to this
class");

                    flag=false;
                    System.out.println();



                    qry="select t.teacher_name AS teacher,s.subject_name AS
subject from teacher t , teacher_class_subject tc,subject s where (t.teacher_id =
tc.teacher_id) AND (s.subject_id = tc.sub_id) AND (tc.class_id = ?)";
                    thePreparedStatement=dbCon.prepareStatement(qry);
                    thePreparedStatement.setInt(1, i);
                    secondResultSet=thePreparedStatement.executeQuery();
                    System.out.println("The teacher list is :");
                    while(secondResultSet.next()) {

      System.out.println(secondResultSet.getString("teacher")+" teaches
"+secondResultSet.getString("subject"));
                          flag=true;
                    }
                    if(!flag)
                          System.out.println("No subjects are assigned to this
class");
```

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                        flag=false;
                        System.out.println();
                        }


                        optionSelect();
                        break;

                case 8:
                        System.out.println("Thankyou");
                        break;

                default:
                        System.out.println("Wrong choice\n Try Again");
                        optionSelect();
                        break;




                }
        }

        private void subjectList() throws SQLException {
                System.out.println("The Subjects are :");
                qry = "select * from subject";
                thePreparedStatement = dbCon.prepareStatement(qry);
                theResultSet = thePreparedStatement.executeQuery();
                while(theResultSet.next()) {
                        System.out.println("The Subject Id :
"+theResultSet.getInt("subject_id")+" and the Subject name is
"+theResultSet.getString("subject_name"));
                }
        }

        private void studentList() throws SQLException {
                System.out.println("The Students are:");
                qry = "select * from students";
                thePreparedStatement = dbCon.prepareStatement(qry);
                theResultSet = thePreparedStatement.executeQuery();
                while(theResultSet.next()) {
                        System.out.println("The Student Id :
"+theResultSet.getInt("student_id")+" and the name of the student is
"+theResultSet.getString("student_name"));
                }
        }

        private void classList() throws SQLException {
                System.out.println("The classes are :");
                qry = "select * from class";
                thePreparedStatement = dbCon.prepareStatement(qry);
                theResultSet = thePreparedStatement.executeQuery();
                while(theResultSet.next()) {
                        System.out.println("The Class Id :
"+theResultSet.getInt("Class_id")+" and the Class name is
"+theResultSet.getString("class_name"));
                }
        }
```

```
	private void teacherList() throws SQLException {
		System.out.println("The teachers are :");
		qry = "select * from teacher";
		thePreparedStatement = dbCon.prepareStatement(qry);
		theResultSet = thePreparedStatement.executeQuery();
		while(theResultSet.next()) {
			System.out.println("The Teacher Id :
"+theResultSet.getInt("teacher_id")+" and the name of the Teacher is
"+theResultSet.getString("teacher_name"));
		}
	}

}
```